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ABSTRACT

This paper about the history and distribution of indigenous languages of Bolivia is divided into two parts. The first part deals with: (1) the developments of comparative work in South American Indian languages, (2) the phonological problems of comparative work in recently written languages, and (3) the apparent conflicts when dealing with early stages of discovering relationships. The second part is a survey of the extant languages of Bolivia with an updated map. Relationships that have been posited are summarized. A new hypothesis is suggested for intercontinental connections, relating the Aztec languages of Mexico with Quechua, Mapuche (Araucanian), Mosetene, Tacanan, Panoan, and the Fuegian languages. The appendix contains a word list of resemblances between the languages examined. (Author/NCR)

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The History and Distribution of the Indigenous Languages of Bolivia[1]

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This paper will be presented in two parts, with an appendix. Part One will treat the developments of comparative work in South American Indian languages, the phonological problems of comparative work in recently written languages, and the apparent conflicts when dealing with early stages of discovery of relationships. Part Two is a survey of the extant languages of Bolivia with an updated map. Relationships which have been posited are summarized. A new hypothesis is suggested for intercontinental connections, that is, the Aztec languages of Mexico, which appear to have affinities with Quechua, Mapuche (Araucanian), Mosetene, Tacanan, Panoan, and the Fuegian languages. The appendix contains a word list of resemblances between the languages just listed.

Part One: Considerations in comparative work in recently written languages.

Progress in comparative linguistics of South America has moved very rapidly in the fifteen years since my dissertation of 1963 when I elaborated on the affinities of Tacanan and Panoan.[2] One of the main reasons is the solid contribution of Latin American linguists who have been caught up in the interests of historical migrations and classification of the some 600 languages of South America. Historical discoveries are often fortuitous. The South American picture exemplifies this. The discoveries often have to do with the linguist's background rather than logical procedures. The Chipaya-Mayan hypothesis was set forth, for example, because Ronald Olson had spent some time among the Mayans in Mexico before going to Bolivia. Suárez' important contributions resulted from extensive work with colleagues in Argentina among the Fuegian languages, which preceded his move to the north where he gained access to Swadesh' materials. The abundantly useful material published by Esther Matteson and colleagues resulted from the interests of whoever-happened-to-be-present at a workshop held in Colombia. The Aztec hypothesis which I present below is possible because I happened to have spent several years in Mexico and published on the phonemes and a dictionary in Aztec. These discoveries are not the kind of discoveries which would be made in an organized, abundantly-funded effort that the space age is well-acquainted with. In spite of the piece-meal effect, the situation of South American linguistics is, for several reasons, one of the most exciting and rewarding areas of research that exists today. Because the languages are nonWestern they offer a rich laboratory of data for discussions of universals and linguistic theory. Historical connections between North and South America can be corroborated by linguistic evidence, a powerful source of verification.

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The phonological problems of comparative work in recently written languages are probably no different from the phonological universals in all languages of the world. But the attitude and approach of the investigator is different. This has advantages and disadvantages. One perceives an unwritten language in a pristine atmosphere; one may actually "hear" more in an innocent and receptive attitude. When dealing with written languages, one is apt to deal with the language in terms of the symbol (the writing) rather than what one hears. It is important to remember this when the linguist approaches the matter of fluctuation of articulation. For example,

when we "hear" the words, 'some fish', we may "hear" a labiodental [f] because the symbol indicates such. But it is likely that a bilabial fricative [p] was actually articulated. The possibility of observing more variation in pronunciation, then, is an aid in trying to understand sound change from language to language. On the other hand, archaic spellings and old documents are a great help in reconstructing the past history of languages.

Fluctuation of phonemes in everyday articulation of natural language is probably more common than educated people have realized. "Learned" persons are so attached to the symbolization of the symbol that they no longer pay any attention to the varying behavior that goes on out-of-awareness. There is extensive fluctuation of phonemes in some South American languages. I have documented this in publications since 1968. In the Chama and Mapuche (Araucanian) languages, the patterns* of reflexes and correspondences of the related languages. This information is crucial in recognizing relationships and distinguishing cognates from loanwords.

Morphemes in the agglutinative languages of South America very often have a one-syllable shape. The one-syllable morphemes can be joined in an amazing variety of combinations found in cognates across family lines. The following examples are from closely related languages, so there is no doubt about their validity.

mover (move)	Chama (Tacanan)	wewa- / -nena-
	Amahuaca (Panoan)	wana-
murciélago (bat)	Mosetene	čiñi
	Proto-Tacanan	*bina
	Proto-Panoan	*kaši:
barba (beard)	Mapuche ketre	ketre
	Proto-Tacanan	*kesa
	Proto-Panoan	*kwini
	Cashibo (Panoan)	kwëša

This kind of morpheme split also occurs in the Uto-Aztecan languages:

despertar (awaken)	UA *pusa	
	Zacapoaxtla (Aztec)	ihsa

Apparently the morpheme split process can be carried across family lines, for example in the following possible cognate group:

año (year)	Zacapoaxtla (Aztec)	šiwit
	Tetelcingo (Aztec)	šihpa
	Mapuche (Araucanian)	tripantu
	Chacobo (Panoan)	šïnipa

The hazards of this kind of morpheme identification in very distant relationships, of course, are horrendous. Even more hazardous is the situation of metathesis, which occurs throughout the various levels of structure. Metathesis of phonemes is illustrated in the following.

*of fluctuation are related to the patterns

sesos (brains)	Proto-Quechua	*ñutqhu
	Cochabamba (Quechua)	ñuhtu
	Cusco (Quechua)	ñutqhu / ñusqhu
	Ayacucho (Quechua)	ñutxu
	Riobamba (Quechua)	ñutku
	Tena (Quechua)	ñuktu
brillar (to become bright)		
	Ayacucho (Quechua)	ačikya-
	Huarás (Quechua)	akci- / ɐcki-

Metathesis of morpheme is illustrated in the following:

ropa (clothes)	Mapuche	tukún
	Amahuaca (Panoan)	kotõ:
levantar (raise)	Mapuche	wit^{r}añ-
	Mosetene	čeeme
	Cavineña (Tacanan)	wesa-
	Chama (Tacanan)	aña-
	Tacana (Tacanan)	tsewa
	Amahuaca (Panoan)	wəni-
lavar (wash)	Mapuche	kǐčatún
	Mosetene	čikoñ
	Proto-Panoan	*čoka-
	Chama (Tacanan)	šakwa-
agujero (hole)	Mapuche	wečoθ
	Amahuaca (Panoan)	ʂowi:
gente (people)	Mapuche	koɲa (servant, soldier)
	Capanahua (Panoan)	nókǐ

Apparently the morphological metathesis can be carried across family lines, for example in the following possible cognate groups:

esquina (corner, also rincón)		
	Proto-Quechua	*k'uču
	Mosetene	katsyeye
	Cavineña (Tacanan)	etsoko
caminar (walk, road)	Proto-Quechua	*puri-
	Mapuche	rǐpǐ

humo (smoke)	Uto-Aztecan	*kwici
	Cashibo (Panoan)	tsiį kwi
comer (eat)	Uto-Aztecan	*kumi
	Proto-Quechua	*mikhu-
dia (day)	Zacapoaxtla (Aztec)	to:na-l
	Amahuaca (Panoan)	nɐtɐ́?

Because of the hazards in trying to match one-syllable morphemes, I have stayed within a very close semantic range for identification. Most of the examples in my comparative files have identical meanings. Loanwords are a major stumbling block when it comes to certainty of cognate relationship. There is a very large vocabulary of Amerindian origin in the Spanish of Latin America, and even in the English of the Americas, for example: cancha, cochino, copal, chicha, chili, chocolate, hammock, jerk(y) (charqui), pampa, poncho, pulque, puma, tomato, trapiche. In many cases, the word has been taken over so completely that it is no longer thought of as not-Spanish or not-English. Other vocabulary items are less known on a wide scale, but deeply embedded in the Spanish of a particular area. I compiled a non-Spanish vocabulary of over 700 items which are used by monolingual Spanish speakers in the Bolivian and Peruvian area (Key, 1966). For example, čusču / čuhču / čuhčuh 'fiebre (fever, malaria)'; kuriči / kuriče 'pantana (waterhole, swamp)'. This large vocabulary cannot be ignored by South American linguists; often the fluctuation in pronunciation follows the patterns of correspondences in the Indian languages of the area, as happens in the examples cited above. Regular sound changes do occur in loans of long standing. Note the following examples in words of obvious borrowing and onamatopeia.

puerco (pig)	Mapuche	kučі
	Cavineña (Tacanan)	koči
	Chama (Tacanan)	kweči
	Tacana (Tacanan)	koči
oveja (sheep)	Quechua	uwiha
	Aymara	wesi
	Tacana (Tacanan)	wiša
	Mapuche	ufiča ufisa
	Selknam	wo:ši
hipo (hiccough)	Zacapoaxtla (Aztec)	tsikno:li:s
	Proto-Quechua	*c'uku-
	Proto-Quechua	*kik'i
	Cochabamba (Quechua)	hik'u
	Ayacucho (Quechua)	hikču
	Chama (Tacanan)	heki-so?o
	Proto-Tacanan	*codo-
	Alacaluf	tšalaks

estornudar (sneeze)	Zacapoaxtla) (Aztec)	ikšo:a
	Quechua	ačišnina
	Mapuche	ečiwïn
	Mosetene	ačikki
	Cavineña (Tacanan)	hači-
	Chama (Tacanan)	ati / ači-
	Tacana (Tacanan)	tiďo
	Cashibo (Panoan)	?atišanki-

There are examples when one cannot decide whether the word is a loanword or the similarities are coincidental. Is the following illustration from the Spanish word for circle 'circulo'?

redondo (round, circle)	Uto-Aztecan	*cikuri
	Mapuche	čïnkïll
	Mosetene	čihiriyes
	Proto-Quechua	*kururu (ball of yarn)
	Cavineña (Tacanan)	kwarero-da-ke
	Tacana (Tacanan)	perorota

Even more baffling is the morpheme ko meaning water which appears in the Aztec of Mexico, down through the Tucanoan languages of Columbia, through the Quechua languages, and down through Chile, and possibly to the Fuegian languages. Is this a coincidence, a loanword, or a cognate?

agua (water)	Tetelcingo (Aztec)	ötlah-ko (river)
	Proto-Quechua	*yaku
	Mapuche	ko, ko-we (pozo (well))
	Amahuaca (Panoan)	wako?-má
	Wariapano (Panoan)	ompásko
	Chama (Tacanan)	čixoko (pantano (swamp))
	Cavineña (Tacanan)	epokotana-
	Alacaluf	'qtsula
	Bolivian Spanish	kuriči (pantano (swamp))
	Proto-Tucanoan	*-ko It occurs in seven of these languages in various forms, in the glosses for water, liquid, rain, milk, saliva, medicine, beverage.

Another morpheme that appears to have widespread occurrence is the morpheme for female:

mujer (woman)	Zacapoaxtla (Aztec)	siwa:-t

mujer (woman)	Tetelcingo (Aztec)	sowa-tl
	Quechua	šipas (muchacha (girl))
	Mosetene	-si -s (feminine gender)
	Yaninahua (Panoan)	šíwi-ya
Also related?	abuela (grandmother)	
	Tetelcingo (Aztec)	isihtsi (su abuela)
	Cashibo (Panoan)	čiči
	Mapuche	čeče (abuelo (grandfather))

Still another morpheme that appears to have widespread occurrence:

casa (house)	Uto-Aztecan	*kali, *ki
	Zacapoaxtla (Aztec)	iča:n
	Aymara (Jaqi)	uta
	Proto-Tacanan	*e-tafe
	Chama (Tacanan)	e'ki?
	Amahuaca (Panoan)	hatí?, tapa:s
	Mosetene	aka
	Mapuche	ruka, nïkal
	Selknam (Chon)	ka-wj́
	Alacaluf	at, ata

The languages of South America that have a very close genetic relationship have probably already been identified. Substantial work has been done for some large families, such as the Arawak, Guaraní, Chibchan, and Tucanoan. Some work has been done bringing families together, for example the Tacanan and Panoan of Bolivia and Peru. Distant relationships are being studied nowadays with vigorous attention. In order to understand the stages of progress that comparative studies of South American languages are in today, one can imagine the various stages of the development of Indo-European work. If South American Indian linguists were to land in Europe before the time of Chaucer and before the time of extensive communication and transportation, they would observe some similarities between languages, but on the whole they would feel that the continent contained a huge hodge-podge of completely different languages. If, by historical accident, one of them who had lived in Spain for a year, went to Denmark, he or she would note similarities between the languages. With great enthusiasm the linguist could assemble a respectable file of resemblances. Knowing what we know today about the Germanic and Romance families, it is easy to see that there would be great confusion if the hypothetical linguist would try to reconstruct a proto-sound-system from Danish and Spanish. There would be additional conflicts and confusion if another linguist from Poland had seen similarities and tried to reconstruct a former language from Danish and Polish. The wisdom of the centuries would indicate that the linguist should have dealt with the families separately before attempting reconstruction at a higher level.

In studying the distant relationships of South American languages today, I have chosen not to attempt to reconstruct proto-phonemes. It is enough to identify areas

of possible phoneme correspondences that fall within a certain phonological space. There is a growing corpus of vocabulary lists which contain potential cognates. The entries show resemblances between the languages. If, in time, the genetic relationships are proven without a doubt, then these resemblances, or reflexes of a former state, will be seen to be the correspondences of the daughter languages. A substantial corpus of resemblances at the phonological, grammatical, and even the semantic level could be assumed to be evidence of distant relationship, even without working out the proto phonemes.

The apparent conflicts that have appeared in the last decade or so among researchers probably would all be resolved if one takes into consideration the point of reference. There are some truths and some mistakes in all the proposals that have been set forth in the last couple of decades.

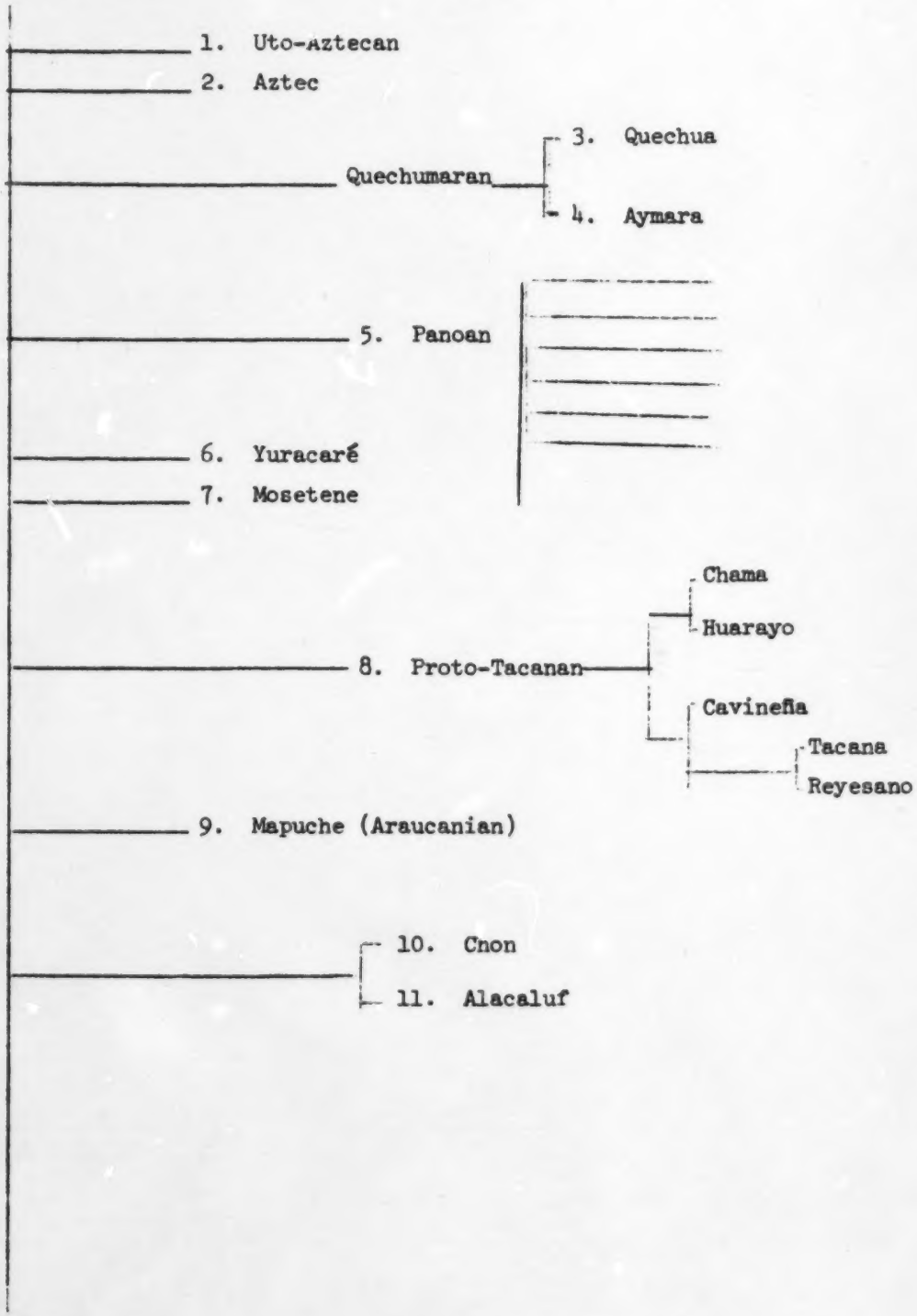
Part Two: Survey of the extant languages of Bolivia with an updated map.

A linguistic map of the extant Bolivian Indian languages was published in 1967. This presentation includes a revision of that map. The most significant change in the situation today, a decade later, is that distant relationships have been proposed. The most recent suggestions bring in the Aztec languages of Mexico and the Quechua and Aymara languages. I referred to the similiarities with Aztec in an article on Mapuche (Araucanian) and Tacanan-Panoan relationships in IJAL (October 1978). My hypothesis is that Aztec and Quechumaran are related to Tacanan (Bolivia); Panoan (Peru and Bolivia); Mosetene (Bolivia); Mapuche (Chile); Chon (Tierra del Fuego); and Alacaluf (Chile).

This paper concludes with an appendix which provides a sampling of the word list which I have been compiling. This selected list contains about 600 entries of words (probably most of them cognates) that show resemblances between the languages just mentioned above. There are about 250 Aztec and about 250 Quechumaran resemblances (not always overlapping). As I have noted previously, the matched words usually have the same meaning. I have not tried to look for matches in related semantic categories, because I believe that the hazards are too great when dealing with one-syllable morphemes and metathesis of morphemes. This is only a beginning. I have not nearly exhausted all of the possibilities in my larger files, which contain all the material from the following: Uto-Aztecan (Voegelin, Voegelin, and Hale, 1962); Zacapoaxtla Aztec (Key and Key, 1953); Tetelcingo Aztec (Brewer and Brewer, 1962); Quechumaran (Orr and Longacre, 1968); Tacanan (Key, 1968); Panoan (d'Ans and den Eynde, 1972; Shell, 1965); Mosetene (Armentia, 1901-1902); Mapuche (Araucanian) (Erize, 1960; Key, field notes; Key, 1978); Chon (Selknam) (Najlis, 1975; Suárez, 1973); Alacaluf (Key and Clairis, 1976; Clairis, field notes); and other material, all of which is documented in the Mapuche (Araucanian) article (Key, 1978).

At this early stage of observation, I choose to deal with areas of sounds that move in a certain phonological space. The sheer quantity and quality of resemblances speaks for a genetic relationship, though I believe it is premature to try to posit proto-sounds. The vocabulary that has been amassed is basic vocabulary, not the kind that lends itself to borrowing. Among the resemblances compiled, it appears that there are more potential cognates between the South American languages and Aztec than with the other branches of Uto-Aztecan. This is what one would expect if Aztec and its South American relatives separated earlier.

The branching would look something like the following. Note that the length of the lines do not reflect time depth, a feature which I have not tried to incorporate in the branching.



The following sketch shows the extent of the connections.

Some structural linguistic features run throughout the languages which are noted on the branching chart above. The phonological features are closely tied to the fluctuation patterns of these languages. Some of these phonological features are also observed in the Spanish of the areas where the Indian languages are spoken (Key, 1966). The following are just a few of the linguistic features that predominate in the languages on the branching chart.

Phonological features

The merging and splitting of proto sounds can be observed across language families. Phonetic and phonemic symbols illustrate the possibilities:

Language A		Language B	
//	[ ]	//	[ ]
	[ ]	//	[ ]

Among the Tacanan languages a nasal may occur with the voiced stop, as a unit phoneme. The following illustration shows that this unit phoneme is analyzed as two phonemes in Quechua.

picaflor (humming bird)	Proto-Quechua	*q'inti
	Tena (Quechua)	kindi
	Reyesano (Tacanan)	[kwandzindzi]
	Proto-Tacanan	*kadidi

The next illustration compares Mapuche and Panoan:

picaflor (humming bird)	Mapuche	pinda
	Marinahua (Panoan)	pino [pindo]

Permitted syllable and word patterns are changed.
Consonant clusters are reduced.

delgado (thin)	Mapuche	t^{r}onli
	Proto-Tacanan	*ošori

Consonant clusters are introduced.

tierra (earth, land)	Mapuche	mapu
	Amahuaca (Panoan)	mišpoo
	Chama (Tacanan)	meši

Initial consonants are lost. Zacapoaxtla (Aztec) loses initial /p/ and /h/ from Proto Uto-Aztecan. Similar losses occur in South American languages.

brazo (arm)	Proto-Panoan	*poyamí
	Chama (Tacanan)	e-yaa
veneno (poison)	Proto-Quechua	*hampi
	Tena (Quechua)	ambi
sudar (perspire)	Proto-Quechua	*hump'i-
	Tena (Quechua)	umbi-

The stop consonants t and k are both reflexes of proto *t in Tacanan. They also fluctuate in the same words in Chama (Tacanan). It appears that there are many possible cognates throughout these languages with this set of reflexes.
Mapuche t^{r} is a retroflexed affricated stop, with an r-like sound as in English 'tree'. It shows up as a metathesized series in Quechua and as an r alternating with l in Aztec.

agrio (sour)	Mapuche	kot^{ry}i
	Tena (Quechua)	urti
	Napo del Suno (Quechua)	hurti
apretar (squeeze)	Mapuche	kit^{ry}in
	Tetelcingo (Aztec)	ki:-trini:a, ki:-tirini:a, ki:-tilini:a

Pro-Que *ukhu
Ama(Pan) ?oko méra

Proto-Tacanan *d has reflexes d, ?, and ∅(zero) in Chama.
These reflexes show up in Quechua (#), and in Panoan ( ).

adentro (inside)	Chama (Tacanan)	e-doxo-ho
	Cavineña (Tacanan)	e-doko-ho

There is a good deal of fluctuation between k h x, which also occur as reflexes of Proto-Tacanan *x. Alternation of these sounds occurs extensively in the Quechua and Aymara. The h sound also fluctuates with other proto-Tacanan sounds in the fricative series. This alternation also occurs extensively in the Quechumaran languages, as well as the Spanish of the areas where the Indian speakers live.

otro (other)	Proto-Quechua	*suk
	Cuzco (Quechua)	huh
	Ayacucho (Quechua)	huk
	Putumayo (Quechua)	suh
venir (come)	Proto-Quechua	*samu-
	Cochabamba (Quechua)	namu-

In Proto-Tacanan both *r and *f have a semivowel reflex. This shows up as an alternation and as a reflex.

diente (tooth)	Proto-Quechua	*kiru
	Aymara	kiwu (tusk)
	Mapuche	foro (also bone)
conejillo de Indias (guinea pig)		
	Proto-Quechua	*quwi
	Spanish speakers	kurí
maíz (corn)	Proto-Quechua	*sara
	Mapuche	wa
	Amahuaca (Panoan)	sɵwo:-

In Proto-Tacanan y and č are reflexes of *y.

temblar (tremble)	Proto-Quechua	*kuyu-
	Mapuche	nĭyĭn
	Mosetene	noy-ncy, nočočoy
miedo(fear, frighten)	Proto-Quechua	*mančači-
	Mosetene	noyeye
	Cavineña (Tacanan)	moiya-
secar (dry)	Zacapoaxtla (Aztec)	wa:yi-k
	Proto-Quechua	*č'aki-
	Mosetene	ičanak

Palatalization is a common feature of these languages. Cavineña and Mapuche have a highly developed palatalized order. An interesting example occurs between Aztec and Quechua:

otro (other)	Zacapoaxtla (Aztec)	okse:
	Tetelcingo (Aztec)	oksie
	Proto-Quechua	*šuk

There is a great deal of vowel variation in these languages. The following example is from closely related languages.

muchacho (child)	Proto-Tacanan	*baka
	Huarayo (Tacanan)	e-kobako
	Proto-Panoan	*baki

In the Aztec and the Chon languages there is correspondence between the vowels a and e. These show up in many cognates.

arena (sand)	Proto-Panoan	*masši
	Reyesano (Tacanan)	mešisi
	Amahuaca (Panoan)	mišpo:

Grammatical and Semantic features

There are similarities in compound constructions. In Mapuche and Tacanan the morpheme for nalga/cadera 'hip, buttocks' contains the morpheme for 'sit'. In Aztec the word for 'bad' is literally 'not good'; a like construction occurs in Cavineña (Tacanan) hidama. Also note:

ciego (blind)	Zacapoaxtla (Aztec)	amo tača (not see)
	Chama (Tacanan)	e-koxamá (negative)
	Mapuche	t^{r}awma (negative?)
	Selknam (Chon)	aik-son (see-negative)

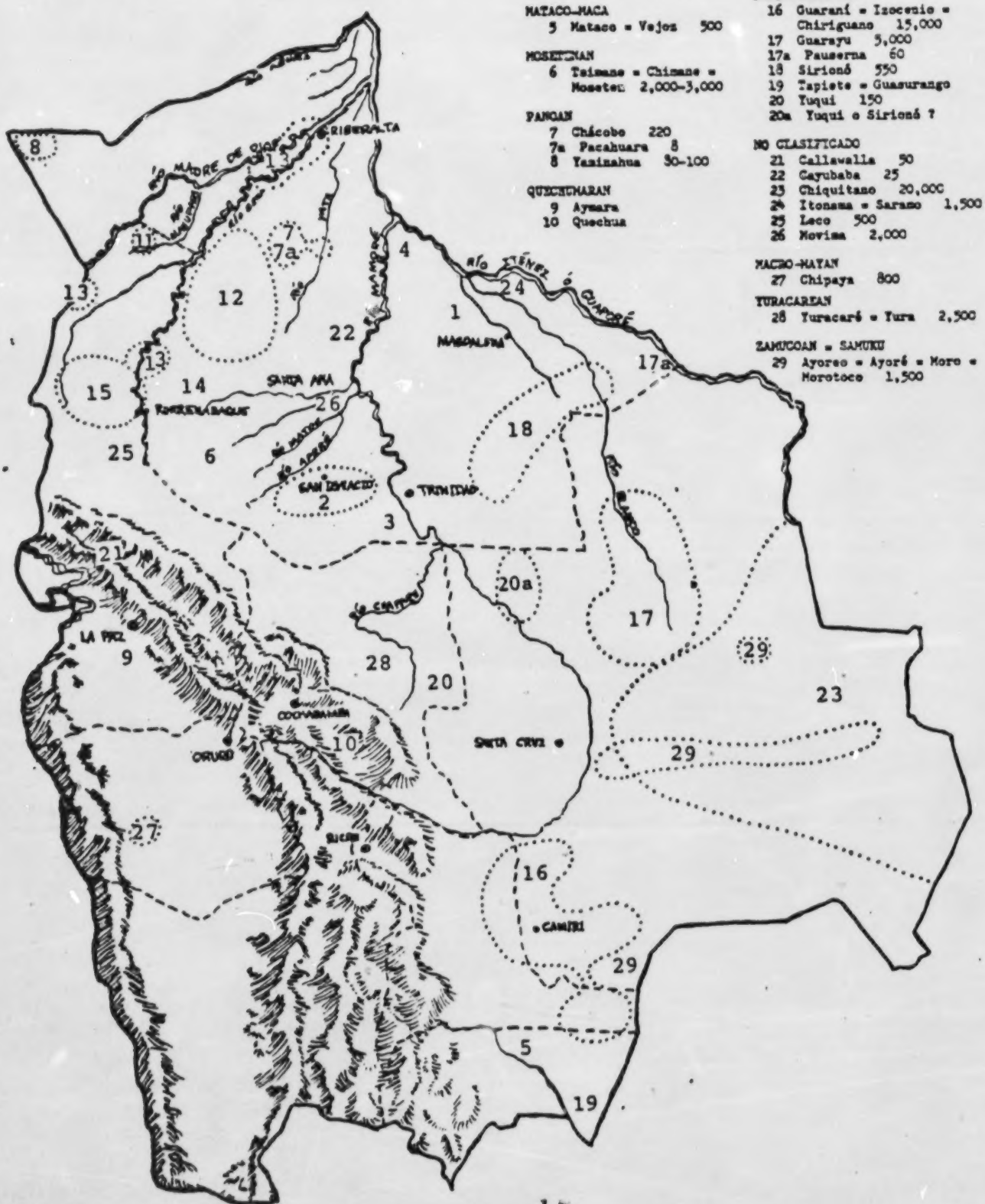
The word for llovizнar 'drizzle' is literally rain-little in Chama (Tacanan) and little-rain in Mapuche.
Cognate groups have similar semantic relationships. For example, in Uto-Aztecan and Tacanan the words nose and point are included in the group that make up a single proto-form. In Uto-Aztecan and Panoan the words tail and penis make up the single proto-form. Kinship terms are similar throughout the languages, especially a morpheme for a female relative, in a form such as na-. This occurs in Tacanan, Mapuche, Quechua, and Selknam (Chon). Other examples of grammatical and semantic similarities are given in my recent article on Mapuche (Araucanian) genetic relationships (1978). The following appear to be cognate:

adjective	Zacapoaxtla (Aztec)	-k
	Mapuche	ŋei
	Mapuche	-ke (pluralizer of adj.)
	Cavineña (Tacanan)	-ke
	Chama (Tacanan)	kea-

agent	Mapuche (Schuller)	-boe
	Cavineña (Tacanan)	-pchi
	Chama (Tacanan)	-pɔxi
nominalizer	Zacapoaxtla (Aztec)	-ti
	Uto-Aztecan	*ti-wa (to name)
	Proto-Quechumaran	ʂuti (name)
	Mosetene	ti, timo
	Proto-Panoan	*-ti
	Alacaluf	-ti (uncertain?)
pluralizer	Zacapoaxtla(Aztec)	-wan
	Jaqaru (Aymara)	-kuna
	Cavineña (Tacanan)	-kwana
possessive (unspecified)	Zacapoaxtla (Aztec)	te-, i-
	Proto-Tacanan	*e-

Other Bolivian language relationships are noted on the following map. The Mayan-Chipaya hypothesis was set forth in 1964 by Olson, and the Maya-Yunga-Chipayan connection was suggested by Stark in 1972. The Mosetene-Pano-Tacanan seemed well established with Suárez' 1969 article. Key and Clairis (1976) presented material which ties in the Fuegian languages with Pano-Tacanan. While I have proposed that the Mapuche (Araucanian) of Chile has linguistic affinities with Tacanan, Panoan, and Mosetene, Stark has suggested a Mayan relationship. In the final analysis, all of these could be correct. It remains to work out the details.

LINGUISTIC GROUPS OF BOLIVIA - 1978



Present-day speakers

ARAWAKAN
1 Saure 4,000-5,000
2 Ignaciano 2,500
3 Trinitario 5,000

CHAPACURAN
4 Itene = More 150

MATACO-MACA
5 Mataco = Vejoz 500

MOSETENAN
6 Tsimane = Chimane = Mosetén 2,000-3,000

PANOAN
7 Chácobo 220
7a Pacahuara 8
8 Yaminahua 30-100

QUECHUMARAN
9 Aymara
10 Quechua

TACANAN
11 Araona 53
12 Cavineña 1,000-1,500
13 Ese Ejja = Chama = Huarayo 500 (Bolivia) 450 (Peru)
14 Reyesano 1,000
15 Tacana 3,500

TUPI-GUARANIAN
16 Guaraní = Izoceño = Chiriguano 15,000
17 Guarayu 5,000
17a Pauserna 60
18 Sirionó 550
19 Tapiete = Guasurango
20 Yuqui 150
20a Yuqui = Sirionó ?

NO CLASIFICADO
21 Callawalla 50
22 Cayubaba 25
23 Chiquitano 20,000
24 Itonama = Saramo 1,500
25 Leco 500
26 Movima 2,000

MACRO-MAYAN
27 Chipaya 800

YURACAREAN
28 Yuracaré = Yura 2,500

ZAMUCOAN = SAMUKU
29 Ayoreo = Ayoré = Moro = Morotoco 1,500

Footnotes

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[2]Extensive references have been given in my recent publications, and for the sake of brevity I will not repeat them here.

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Appendix

Word List

When words have two morphemes that can be related to two different cognates, at times I have coalesced the examples into one entry, in order to save space by not repeating. The examples are presented in the following order:

Uto-Aztecan UA

Aztec
- Zacapoaxtla Aztec ZacAz
- Tetelcingo Aztec TetAz

Quechumaran Q-A
- Quechua Q
- Aymara Ay

Tacanan Tac
- Cavineña Cav
- Chama Chm
- Tacana Ta

Panoan Pan
- Amahuaca Ama
- Shipibo-Conibo SC
- Yaminahua Yam

Mosetene Mos

Mapuche (Araucanian) Map

Chon
- Ona
- Selknam Selk

Alacaluf

abrir (open) *Q *phaska-; TacCav pakaša-; ChonSelk àṣke; Ala qsəqsa.

abuela (grandmother) *UA *kaku; Map kuku; ChonSelk hò-n.

acostar (lie down) *UA *tɨka; TacCav ha'ra-; TacChm haa-; TacTa hanawa (descansar); ChonSelk xa,xana (horizontal).

adorno (adornment) Q walka (necklace); Mos warka; Map llanka-tu.

aflojar (loosen) ZacAz kikaša:nia; PanSC piša-.

agachar (bowed down, squat) ZacAz ki-to:čoa; TetAz motohpočoa; TacTa tuđi (from *č); Map pot^{r}oŋĭn.

agarrar (get, take) *UA *kwɨ(sɨ); *Q *qhiču-; *Pan *ɛoma-; ChonSelk -ʂe-.

águila (eagle) *UA *kwa-; ZacAz kwi:ši:n; *Q *anka; TacTa tekinai; Map kokoriñ, manko (Schuller); ChonSelk kða$^{?}$rj.

agujero (hole) ZacAz ko:yo:k, tekoč; *Q *p'ukru; Mos to; Map wečoΘ; ChonOna tõqo.

ahogar (choke, drown) ZacAz moelsi:mia; Map ĭrfín.

ají (chili pepper) ZacAz či:l; *Q *uču; *Tac *biči; PanAma yočí; Map t^{r}api.

alguno (some) ZacAz tehsa:, a:ksa; ; *Q *wakin; PanAma təʂõ$^{?}$; ChonSelk ta$^{?}$c/ka$^{?}$c, ha$^{?}$c; Ala 'taqsu.

amargo (bitter) *UA *cipu; ZacAz čičí:-k; Q pusk; *Tac *pace-; TacCav pore-da-ke; Pan Yam bo?a; Mos bisak; Map fĭré.

amarrar (tie) *UA *puli/pula; ZacAz kilpia; Map t^{r}apelĭn.

apagar (extinguish) *UA *tu-; UAPapago čũu(ʂ); ZacAz sewi: TetAz siewi; Q wañučina; TacChm čiyo-; Map čoŋĭmĭn; ChonSelk šoxč.

aparecer (appear) *UA *maci; ZacAz tama:ti; TetAz niesi: ; Mos naizi.

apreciar (appreciate) Q yupaičana; Map poye.

árbol (tree) ZacAz kwowit ; TetAz kwawi:tl; *QA *qiru (palo); *Tac *aki; *ka-ti (firewood); *Pan *ka[a]ro (firewood); ChonOna áku.

armadillo Q surimama; *Tac *codi; *Pan *yawisši; Map kumt^{r}ĭ.

arrancar (pull out) *Q *čhiki-; QAyacucho siki-; TacChm či(?) yo-; PanCshb ĕčiti, tĕĕki-ti; ChonSelk so, ahce.

arriba (above) ZacAz ahko; *Q *hanaq; Qcochabamba hanah; TacChm ehamako$^{?}$oho; PanAma manan-, maṣka: ; Map wenc

asar (roast) *UA *wa?ɨ/wa?i; UAPapago gɨgɨ; TacChm dawa-; PanAma nanə-, ʂo?i-; PanYam šõwí-ĭ; Mos čakanači; Map kankatun.

así (thus) *Q *ṣina; TacChm hamaya; PanYam ís?a; Mos čime, eñaka, meinas; Map veimo, veino (Erize).

áspero (rough) ZacAz šašakač-tik; PanSC šaša.

atrás (behind) ZacAz tai:ka:mpa; TetAz ikwitlapa; Q kipa; Mos eki.

ayer (yesterday) ZacAz ya:lwa; *Q *qayna; TacChm mekawaxe (also tomorrow), omamekaxe; *Pan *yamĭ (also tomorrow). Map uyá.

ayunar (to fast) ZacAz sawa: ; Q sasina; *Pan *sama.

azul$_1$ (blue, green) ZacAz šošokti:-k; TacChm sowaki.

azul$_2$ (blue, green) Q killu; Map kollĭ; ChonSelk ktohrn; Ala arqa.

bañarse (bath) *UA *?asi; ZacAz ahkwi (nadar); TacChm šeweša-; *Tac *nawi-; *Pan naši-.

barranco, arroyo (cliff) *UA *?aki; *QA *wayq'u; TacTa ena-baki; PanCshb kwčtu.

barro (clay) TetAz Tlöltsakti:-k; Qturu; TacTa rutu; PanCshb čua; Map fot^{r}a.

bejuco (vine) *Q *waskha; Aymara wiska; TacChm bišahe; map niclo-iwas (Schuller).

blanco (white) *UA *tosa; *Tac *paša-; *Pan *oǫ̣o.

boca$_1$ (mouth) *UA *táni UAPapago čɛ̈n^{y}; Q šimi; Map wĭn.

boca$_2$ (mouth) ZacAz i-kamak; *UA *kama; *Tac *e-kaca; PanAma hanáᵛ.

boca abajo (face downward) ZacAz i:šaka; Q wičai; Mos čindak.

bueno (good) ZacAz kwali; *Q *al^{y}i; *QA *wal^{y}i; Map kĭmey.

buho (owl) *UA *tukur(i); Q puku, kurkuku; *Pan *popo; Map koo.